# Attachment B

**Excavation and Soil Management Plan** 



# Excavation and Soil Management Plan Georgia-Pacific Wood Products Manufacturing Facility, Fort Bragg, California

Georgia-Pacific Fort Bragg, California 95437

September 2006



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### 1. Introduction

Georgia-Pacific Corporation (G-P) authorized the preparation of this Excavation and Soil Management Plan (ESMP) which describes the procedures be followed during implementation of foundation removal, additional investigation, and interim remedial measure (IRM) activities at the former Georgia-Pacific California Wood Products Manufacturing Facility Fort Bragg, California (site, Figure D-1). The initial ESMP was prepared and submitted by Acton Mickelson Environmental. Blasland, Bouck, & Lee, Inc. (BBL), an ARCADIS Company, hereby submits this revised plan. IRM activities are described in:

- Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures dated March 21, 2005 (Work Plan);
- Addendum #1 to the Work Plan dated May 6, 2005;
- Response to Regional Water Quality Control Board Comments (RWQCB) dated July 18, 2005;
- Addendum #2 to the Work Plan dated August 19, 2005;
- Response to RWQCB Comments dated September 22, 2005;
- Clarification and Modification to Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures Dated March 21, 2005, Addenda #1 and #2 to the Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures Dated May 6 and August 19, 2005, Respectively, and Response to RWQCB Comments Dated July 18, 2005; and
- Revised Ash Pile Removal and Disposal Work Plan dated September 8, 2006.

G-P ceased site operations in August 2002. Environmental investigations conducted since 2003 indicate soil and ground water underlying the site is impacted by constituents of potential concern (COPCs), including petroleum hydrocarbons, volatile organic compounds (VOCs), semi-volatile organic compounds, metals, polychlorinated biphenyls, and organochlorine pesticides.

The Work Plan scope of work addresses:

- Powerhouse and former Sawmill #1 areas and associated building structures (Figure D-2);
- Former Mobile Equipment Shop and associated building structures (Figure D-2);
- Glass Beaches #1, #2, and #3 areas (Figures D-3 through D-5, respectively);
- Two areas of geophysical anomalies in Parcels 3 and 10 (Figures D-6 and D-7, respectively); and
- Removal of the ash stockpile in Parcel 7 (Figure D-7a).

The scope of work also addresses foundation removal and excavation of impacted soil at these locations, if applicable. Upon removal of the foundations, environmentally impaired soil will be identified, excavated, and removed as an IRM, if warranted. Buried debris identified at the three beach areas and two geophysical survey areas will be excavated and removed. Impacted ash and soil within the ash stockpile area will be excavated and removed.

This Excavation and Soil Management Plan describes protocol and procedures to be followed to protect human health and the environment during foundation removal and excavation activities, and fulfills specific applicable requirements of the Mendocino County Air Quality Management District (MCAQMD) and California State Water Resources Control Board. All excavation and IRM activities will be conducted in accordance with the City of Fort Bragg (City) Municipal Code, title 18, Article 6, Site Development Regulations.

Components of this Excavation and Soil Management Plan address mitigation of human health and environmental risks from fugitive dust, potential emissions of petroleum hydrocarbons and VOCs, stormwater and sediment runoff, and physical hazards resulting from excavations. All work will be also be performed in accordance with the Site Health and Safety Plan (HASP) and the Transportation Plan.

## 2. Foundation Removal and Excavation Permits

All required permits, including but not limited to a Coastal Development Permit (CDP), City Public Works Department grading permit, MCAQMD permit, and Mendocino County Environmental Health permit, will be obtained prior to field-operation commencement. Excavation activities will be conducted in accordance with the permits referenced above.

# 3. Foundation Removal and Excavation Notifications

At least 5 days prior to field-activity initiation, G-P will provide written notice to MCAQMD of any intent to remove foundations or excavate, including:

- Names and addresses of persons performing and responsible for excavation work
- Excavation location
- Scheduled starting date of excavation (starting date may be delayed up to 5 working days provided MCAQMD is promptly notified by telephone of the new starting date)
- Estimated quantity of soil to be excavated
- Estimated average organic content of excavated soil
- Procedures employed to meet MCAQMD requirements

The MCAQMD notice will be addressed to:

Air Pollution Control Officer Mendocino County Air Quality Management District 306 E. Gobbi Street Ukiah, California 95482

DTSC and the RWQCB will also be notified at least 5 days prior to field-activity initiation.

## 4. Safety and Public Access Restrictions

Public access to proposed excavation areas will be restricted by fence installations, signage, and monitoring by field personnel. Shoreline areas below excavation areas atop coastal bluffs will be fenced and posted with signs restricting public access. Field personnel will be stationed at the shoreline to prevent public access. A 24-hour security detail will patrol the areas during non-work hours to further restrict public access.

Safety and public access restriction measures will be implemented during excavation activities using the following protocol:

- A public notice of beach closure in planned work areas will be posted in the local newspaper at least 1 week before work commencement. The City will also be notified of the proposed work schedule as a secondary means of informing the public of work activities and access restrictions.
- The contractor will conduct a daily safety meeting with all field personnel at the start of each workday to discuss safety concerns and identify potential changes in health and safety measures during field-activity performance.
- Work areas will be fenced to prevent public access at all times. Field personnel will be stationed at the shoreline below active excavation areas to prevent public access.
- Workers manually removing shoreline debris will use Level D personal protective equipment (i.e., hardhats, steel-toed boots, safety glasses, and heavy work gloves).
- To prevent injury from falling debris, excavators will not be allowed to operate atop bluffs below which workers are active, and personnel stationed at the shoreline to restrict public access will be positioned away from active, overhead work areas.
- Excavation completed atop bluffs will have sidewalls sloped to blend in with the surrounding landscape and mitigate falling hazards.

### 5. Wetland Identification

Jurisdictional Determination and Habitat Assessment (TRC 2003) identified two sensitive areas near proposed Work-Plan areas: the Log Pond (Pond 8) located in Parcels 4 and 5 and the Pacific Ocean coastline. A report delineating jurisdictional wetlands was completed by WRA Environmental Consultants (WRA, 2005). This WRA report provided additional information to identify wetland and sensitive habitat locations and determine appropriate safeguard measures relative to excavation activities. A fence will be constructed to protect Pond 8 from erosion and siltation from subsurface disturbance occurring within 50 feet of the pond. Any excavation activities occurring near Pond 8, other wetlands areas, and/or the Pacific Ocean coastline will use methods described herein and in the Stormwater Pollution Prevention Plan (SWPPP) to minimize environmental disturbance.

## 6. Rare Plant Monitoring

A Mitigation and Monitoring Plan for Rare Plants (MMP; Sholars, 2005) has been prepared in consultation with the State of California Department of Fish and Game; this report was submitted as part of the Coastal Development Permit, which was sent out to all the agencies for their review and comment. Excavation activities will be conducted in accordance with the procedures outlined in the MMP.

In addition, a Revegetation Plan (Circuit Riders, 2005) has been prepared to specify and guide revegetation activities where required. This plan has not been implemented to date since none of the bluff work has been completed.

# 7. Foundation Removal and Excavation Protocol and Procedures

The Field Team Leader will complete a Hot Work Permit prior to each workday per excavation and hot work guidelines. Hot work is defined to include any work using tools or equipment that may create flame or sparks, including heavy construction equipment (e.g., backhoes), motorized equipment, and power and hand tools.

A designated work area boundary will be established for foundation and excavation activities. Initially, the designated work area boundary will be established at a setback distance of 55 feet from the area of work. The designated work area boundary will be adjusted based on air monitoring results. The presence of VOCs and petroleum hydrocarbons will be evaluated with onsite air-monitoring equipment. Air monitoring will be conducted in accordance with the HASP (Section 7) at the worker breathing zone and the work area boundary. A photoionization detector (PID) calibrated to isobutylene will be used to monitor the breathing zone of workers. Work will be initiated with Level D protection. A PID reading of 1 part per million in the workers' breathing zone sustained for 2 minutes will prompt an upgrade to Level C protection.

Entry into an excavation is authorized only in accordance with the HASP (Section 3.2.5.1) and the safe work practices confined space entry procedures as specified in an Entry Permit completed by the Field Team Leader. The Entry Permit will specify the confined space monitoring to be performed and the conditions for acceptable entry. Entry is defined as any part of a person's body passing through the plane of the opening of the excavation.

During periods of inactivity longer than 12 hours, trench bottoms and sidewalls may be covered with heavy-duty plastic sheeting or other covering to minimize emissions of hydrocarbons to the atmosphere. Open excavations will be demarcated with barricades and caution tape during periods of inactivity and at the end of each workday to reduce the potential of personnel falling into the excavations. The excavations will be maintained to mitigate physical hazards to personnel working in or entering the area after work is completed. If a resulting excavation poses a physical hazard, the sidewalls will be sloped where possible to reduce the potential of someone falling into the excavation.

Excavations made for foundation removal, removal of geophysical anomalies, or IRMs will be graded and/or backfilled with clean imported soil to mitigate physical hazards and prevent ponding of water during rainfall. As a temporary measure, excavation sidewalls will be sloped to reduce personnel trip and fall hazards during area work. Backfill materials will be obtained from a local borrow source, such as Baxman Gravel Company, Inc. in Fort Bragg, for site use. Dredge spoils from an offsite location will be considered for use as backfill material. The source of backfill material will be identified, sampled, and analyzed for COPCs prior to onsite use. Coarse-grained soils with a minor amount of fines to bind the soil are preferred for use as backfill, since they are easier to compact and allow water to more readily drain into surrounding soils. The excavation contractor will use compaction equipment suitable for the resulting excavations. Construction materials will be stored in areas identified on Figure D-8. Decontamination and vehicle maintenance areas are identified in Figure D-8.

#### 7.1 Debris and Fill Removal at Glass Beaches #1, #2, and #3

An evaluation of the extent of debris and fill is the first step in conducting IRMs for Glass Beaches #1, #2, and #3. Test excavations will be advanced at a spacing of approximately 75 feet relative to previous sample or known debris locations, and proceed at landward azimuths until the lateral extent of buried debris or fill is identified. Subsurface logs of encountered materials will be prepared including descriptions of signs of environmental impact (e.g., odors and staining) and the nature and quantity of debris, if present.

Selected fill samples will be collected and analyzed for constituents listed in Table 1 of Addendum #2 to evaluate environmental impacts prior to planning the extent of IRM excavations. Interim cleanup levels provided by the risk assessment team will be used to plan the extent of fill removal, if necessary. Debris will be removed from the fill areas regardless of the COPC concentrations reported in select fill samples. Due to the precipitous nature of certain locations along the coastal bluff, worker safety considerations and protection of the public may influence the degree to which debris can be removed.

The following protocol will be used for identified fill and debris removal:

- Excavation and IRM activities will be conducted during the non-rainy season from April 15 through October 15.
- Staging areas will be set up within fenced areas for excavated debris and fill stockpiling. Efforts will be made to segregate large-sized debris that can be disposed at a Class III landfill. Excavated material will be placed on and covered by plastic sheeting to shield the material from elements and mitigate fugitive dust and stormwater run-on and run off.
- Excavation of debris and fill will generally begin at exposed fill and debris atop coastal bluffs and proceed inland until debris is absent. Debris removal and excavation will be performed above the mean high-tide line.
- It is anticipated that a Caterpillar 330 track-mounted excavator or similar device will be used during excavation. The machine will be equipped with an extra long boom that can reach 20 to 25 feet below the top of the bluffs to remove debris.
- Debris that is scattered along the shoreline will be removed manually to the extent practical. Efforts will be made to remove all debris that is physically accessible; however, there may be some areas where debris cannot be removed due to access and safety limitations. Removed debris will either be placed in a container or sling that can be lifted by the excavator, or transported to the staging area using an all-terrain vehicle and trailer where appropriate. It is anticipated that work along the shoreline will primarily be done at low tide as a safety precaution.
- Verification samples of the floor in the fill excavation areas above the top of the bluffs will be collected at a frequency of one sample per 5,000 square feet. Sidewall verification samples will be collected at a frequency of one sample per 100 linear feet of sidewall. The samples will be analyzed for the constituents listed in Table 1 of Addendum #2 under the Glass Beach areas. Acceptable verification sample constituent concentrations will be discussed and approved by DTSC prior to initial of the bluff work. Verification sampling along the cliff face or beneath removed shoreline debris is not proposed. Previous sampling performed by TRC indicated

chemicals to be present at, near, or below the detection limit in these areas; the intent of the debris removal is to remove obvious debris that would be considered solid waste and not soil.

- Excavated fill soil will be transported to a Class I or II landfill by a licensed hazardous waste hauler. Excavated debris that is segregated will be disposed at a Class III landfill. Waste characterization testing will be performed as required by disposal facilities.
- Excavated areas will be sloped or graded to blend with surrounding areas as required by the CDP and grading permit.
- A soil berm will be constructed where any excavation intersects the coastal bluff to restrict runoff from the excavated area. A sorbent material berm will be used to supplement the soil berm to further safeguard against runoff from the excavated area. Additionally, soil and sorbent berms will be constructed at the perimeter of excavations to restrict surface runoff into or out of excavated areas.

#### 7.2 Removal of Geophysical Anomalies

Attempts will be made to identify anomalies through excavation. Anomaly areas will be secured and if anthropogenic waste is found, it will be removed and transported to approved offsite locations. Observations will be photographically documented. Field judgments will be made concerning soil sampling and analysis depending on field observations. Anomalies will be field located using Global Positioning System equipment for inclusion of coordinates and locations in the final report. The procedures outlined in Section 7.1 will be applied here also.

## 8. Dust Prevention and Control Plan

This section constitutes the Dust Prevention and Control Plan submitted to the City as a condition of Grading-Permit issuance.

#### 8.1 Foundation and Debris Removal and Excavation

- Excavation activities will be suspended if winds exceed 15 miles per hour (mph) sustained (for 15 minutes) or 25 mph (instantaneous gusts).
- A designated work area boundary will be established for excavation activities at each area. Initially, the designated work area boundary will be established at a setback distance of 55 feet from the excavation area.
- Water will be applied by means of trucks, hoses, and/or sprinklers prior to any removal and excavation activities to minimize dust emissions.
- A water truck will be onsite at all times. Water will be applied to disturbed areas at least 4 times per day to keep working surfaces moist enough to minimize dust emissions.
- The disturbed work area will be sprayed with water at the end of the work shift to form a thin crust. This application will be in addition to the minimum rate of application (4 times per day.)
- During periods of inactivity longer than 12 hours, excavation bottoms and sidewalls may be covered with plastic sheeting or other covering to minimize emissions of hydrocarbons or fugitive dust to the atmosphere.
- If visible dust persists outside of the immediate vicinity of the excavating and loading operations, then additional dust control measures (e.g., additional watering) will be employed. If these additional measures are ineffective, work will cease until adequate measures can be implemented. The overall goal will be to prevent any visible dust outside of the immediate work area. In no case will visible dust exist for greater than 20 seconds outside the immediate vicinity of the excavation and loading operations.
- The contractor will keep a daily record of measures taken to control fugitive dust in accordance with this plan.
- All excavated material transported offsite will be sampled and analyzed for COPCs prior to transport, then transported to sites approved by the State.
- Haul vehicles transporting soil into or out of the property will be covered, inspected (See Figure D-8 for vehicle inspection locations), and cleaned if necessary so soil is not tracked offsite (see Transportation Plan, Section 5.3 and HASP, Section 3.3.4 and 8.2.2).
- Equipment speeds will not exceed the 15-mph site speed limit.
- A security gate and guard are in place at the project entrance to prevent unauthorized-vehicle entry during non-working hours and weekends.

#### 8.2 Visibly Dry Disturbed Soil Surface Areas

• Water will be applied to disturbed areas at least 4 times per day to keep working surfaces moist enough to minimize dust emissions.

• The disturbed work area will be sprayed with water at the end of the work shift to form a thin crust. This application will be in addition to the minimum rate of application (4 times per day).

#### 8.3 Onsite Paved Roads

• Onsite paved roads will be washed down at least once per day unless conditions warrant a greater frequency.

#### 8.4 Visibly Dry Disturbed Unpaved Roads

- Water will be applied to visibly dry unpaved roads at least 4 times per day to keep road surfaces moist enough to minimize dust emissions. A water truck will be onsite at all times.
- The road surface will be sprayed with water at the end of the work shift to form a thin crust. This application will be in addition to the minimum rate of application (4 times per day.)
- Unpaved roads may be graveled to reduce dust emissions.
- Equipment speeds will not exceed the 15-mph site speed limit.

#### 8.5 Vehicles Entering/Exiting Construction Area

• Vehicles entering or exiting construction areas will travel at a speed that minimizes dust emissions, but not to exceed 15 mph.

#### 8.6 Employee Vehicles

• Construction workers will park in designated parking area(s) to reduce dust emissions.

#### 8.7 Management of Broken Concrete and Excavated Debris and Soil

Soil stockpiles will be placed atop and covered with heavy duty plastic sheeting. Wherever possible, broken concrete and excavated soil will be stockpiled on areas with improved asphalt or concrete surface. Potentially hazardous waste will be stored in Potentially Hazardous Waste Storage Areas (Figure D-8). Stockpile covering will be in good condition, joined at the seams, and securely anchored to minimize headspace where vapors may accumulate. When not covered, soil stockpile surfaces will be kept visibly moist by water spray. However, stockpiles will not be excessively watered such that mud is generated, there is runoff from the piles, or potential "tracking" problems are created,

Soil loaded into transport vehicles for offsite disposal will be covered with continuous heavy duty plastic or other covering to minimize emissions to the atmosphere. The covering will be in good condition, joined at the seams, and securely anchored to minimize headspace where vapors may accumulate. Additional procedures for offsite transportation of soil generated during implementation of remedial activities are provided in the Transportation Plan (see Section 5.3 of Transportation Plan for load inspection information).

The anticipated landfill facilities for disposal of non-hazardous excavated soil are the Potrero Hills Landfill in Suisun City, California; Keller Canyon in Pittsburg, California; and Waste Management, Inc., Redwood Landfill in Novato, California. The anticipated landfill facility for hazardous excavated soil is the Waste Management, Inc. Kettleman Landfill in Kettleman Hills, California. Non-hazardous concrete debris will be either reused onsite or transported to Norcal Rock in Willits, California for disposal or recycling.

#### 8.8 Air Monitoring

Air monitoring will be conducted in accordance with the HASP (Section 7) at the worker breathing zone, and the work area boundary. The Field Team Leader will keep a daily record of measures taken to control fugitive dust in accordance with this plan. The designated work area boundary will be adjusted based on air monitoring results. The presence of VOCs, petroleum hydrocarbons, and other COPCs will be evaluated with onsite air-monitoring equipment. A PID calibrated to isobutylene will be used to monitor the breathing zone of workers. Work will be initiated with Level D protection. A PID reading of 1 part per million in the workers' breathing zone sustained for 2 minutes will prompt an upgrade to Level C protection or evacuation of the area. Entry into an excavation is authorized only in accordance with the HASP (Section 3.2.5.1) and the safe work practices confined space entry procedures as specified in an Entry Permit completed by the Field Team Leader. The Entry Permit will specify the confined space monitoring to be performed and the conditions for acceptable entry. Entry is defined as any part of a person's body passing through the plane of the opening of the excavation.

Additional air monitoring requirements are provided in Section 7 of the HASP. For the Ash Pile removal, in particular, real-time particulate monitoring is required (see Appendix D of the HASP in the Ash Pile Work Plan; BBL, 2006).

# 9. Erosion and Sediment Control and Stormwater Management

Erosion and sediment control and stormwater management are addressed in the SWPPP.

# 10. Transportation

A Transportation Plan was included in Appendix E of the Work Plan and has subsequently been revised by BBL.

## 11. References

AME. 2005. Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures, Former Georgia-Pacific California Wood Products Manufacturing Facility, 90 West Redwood Avenue, Fort Bragg, California. March 21.
2005. Addendum #1 to Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures, Former Georgia-Pacific California Wood Products Manufacturing Facility, 90 West Redwood Avenue, Fort Bragg, California. May 6.
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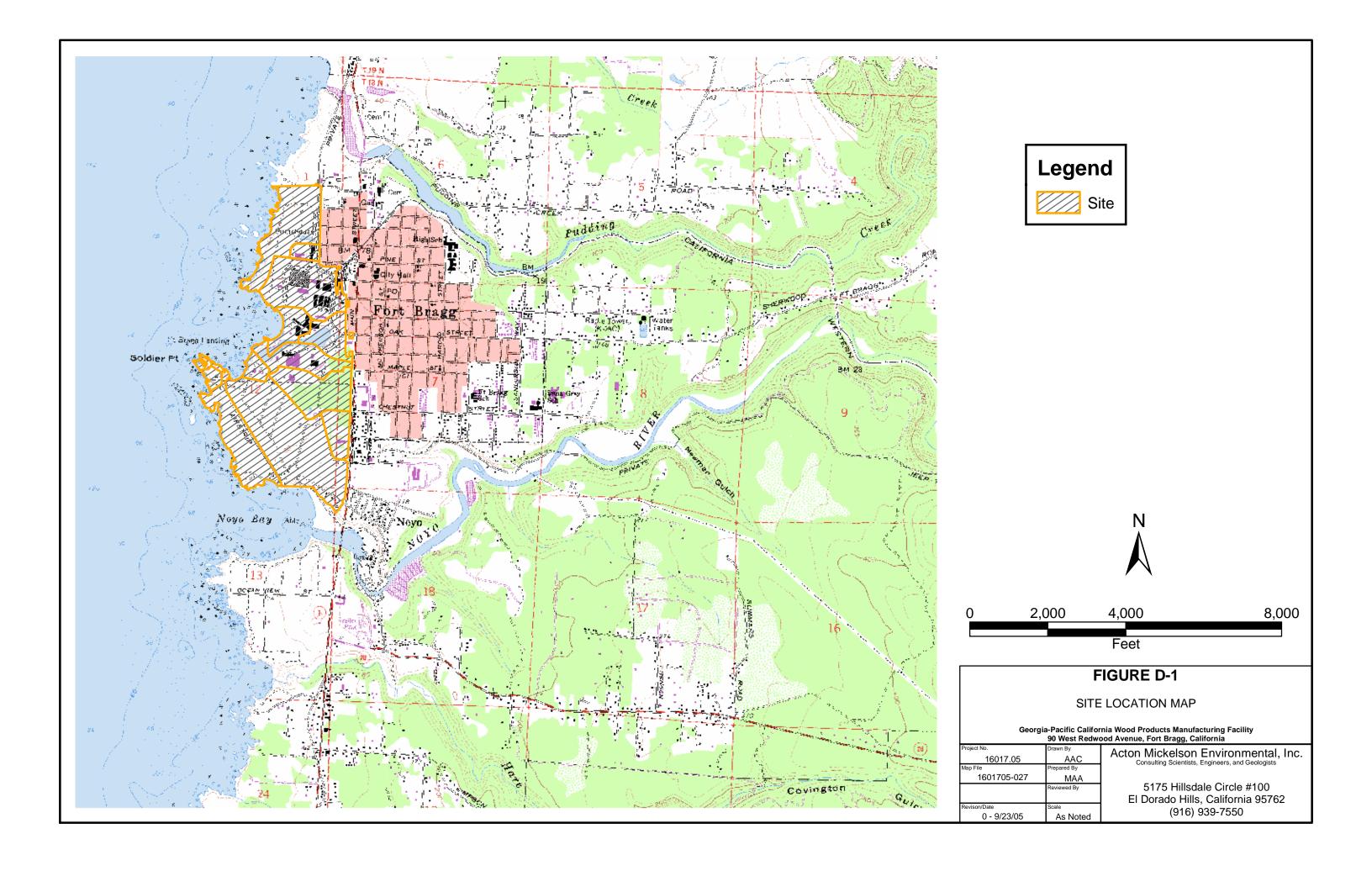
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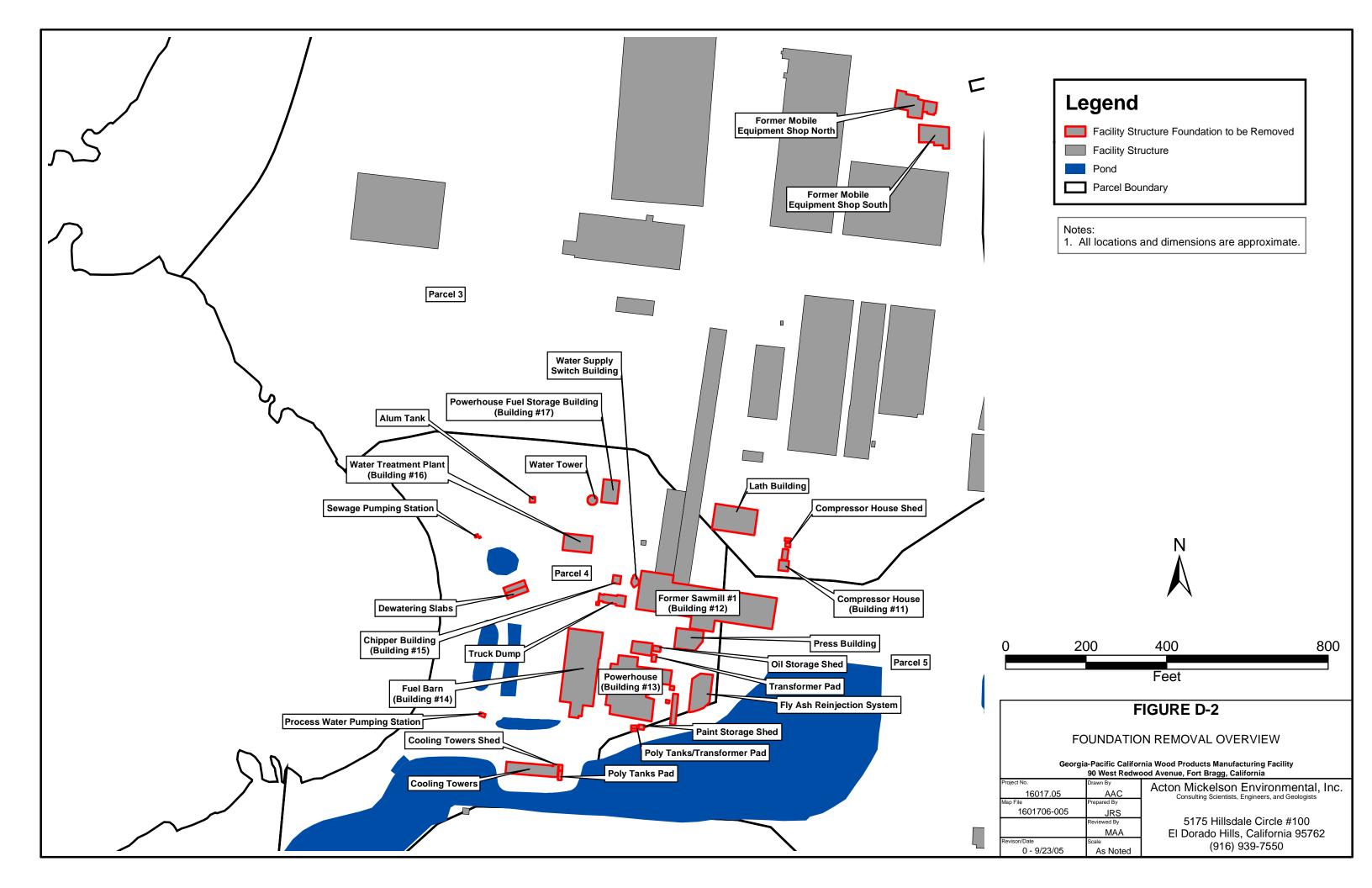
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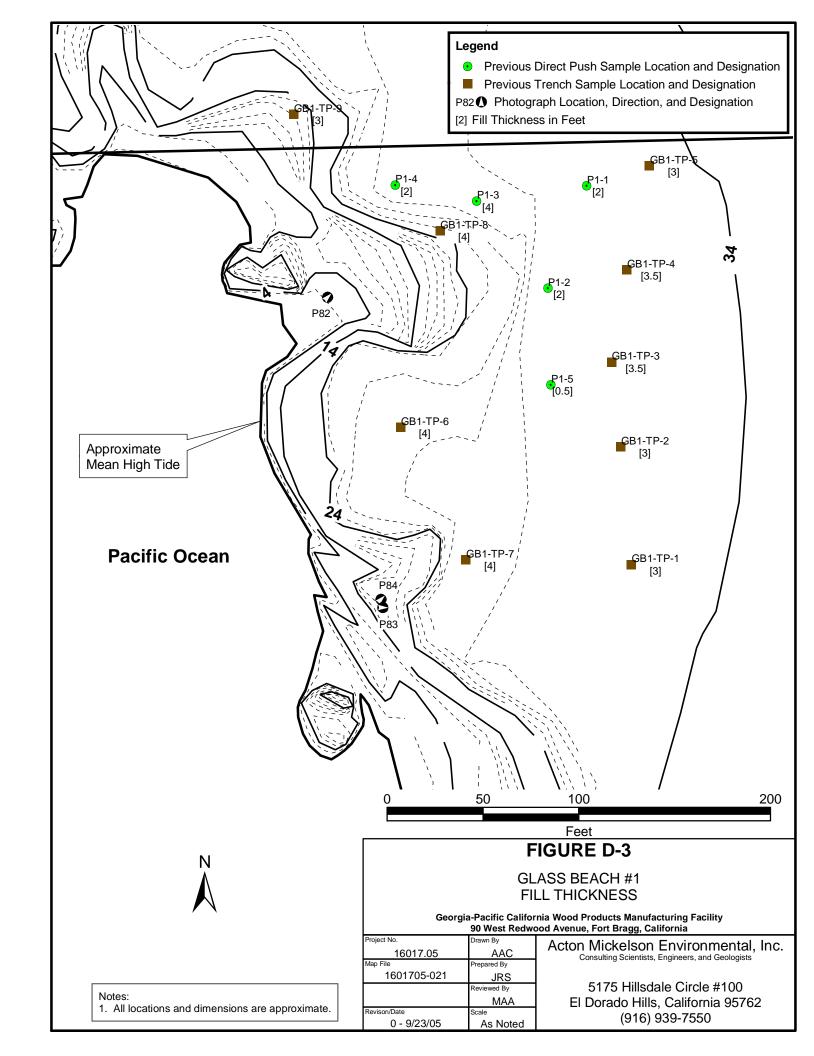
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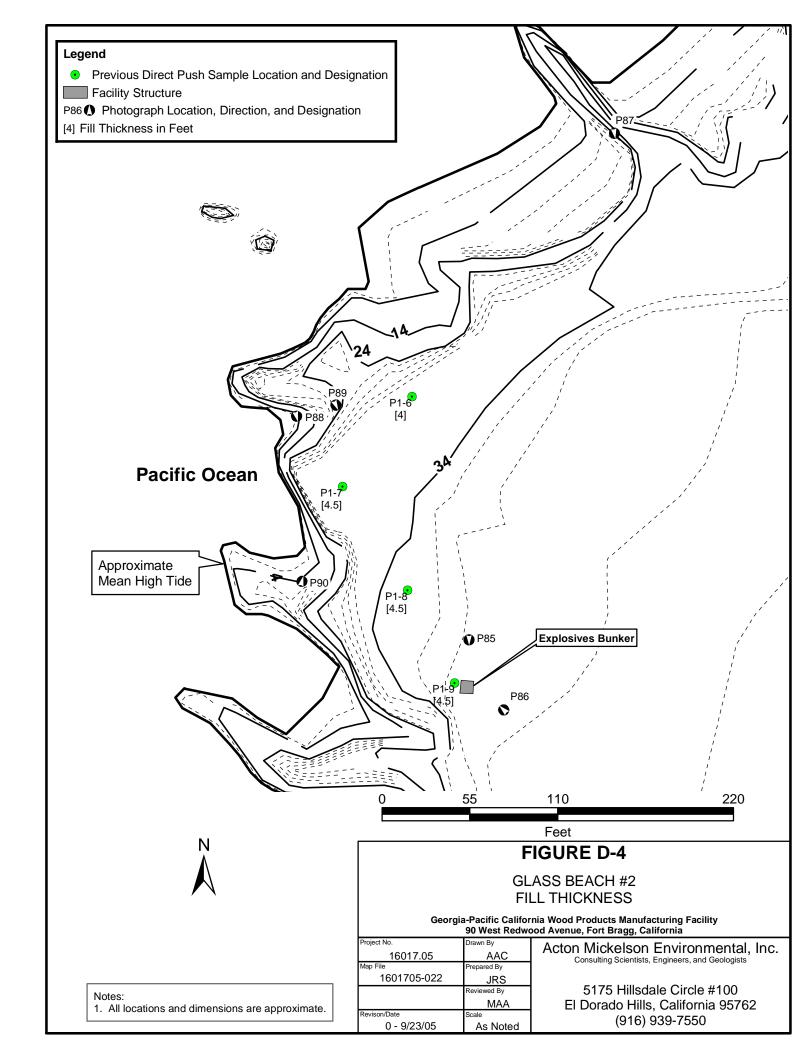
# **Figures**

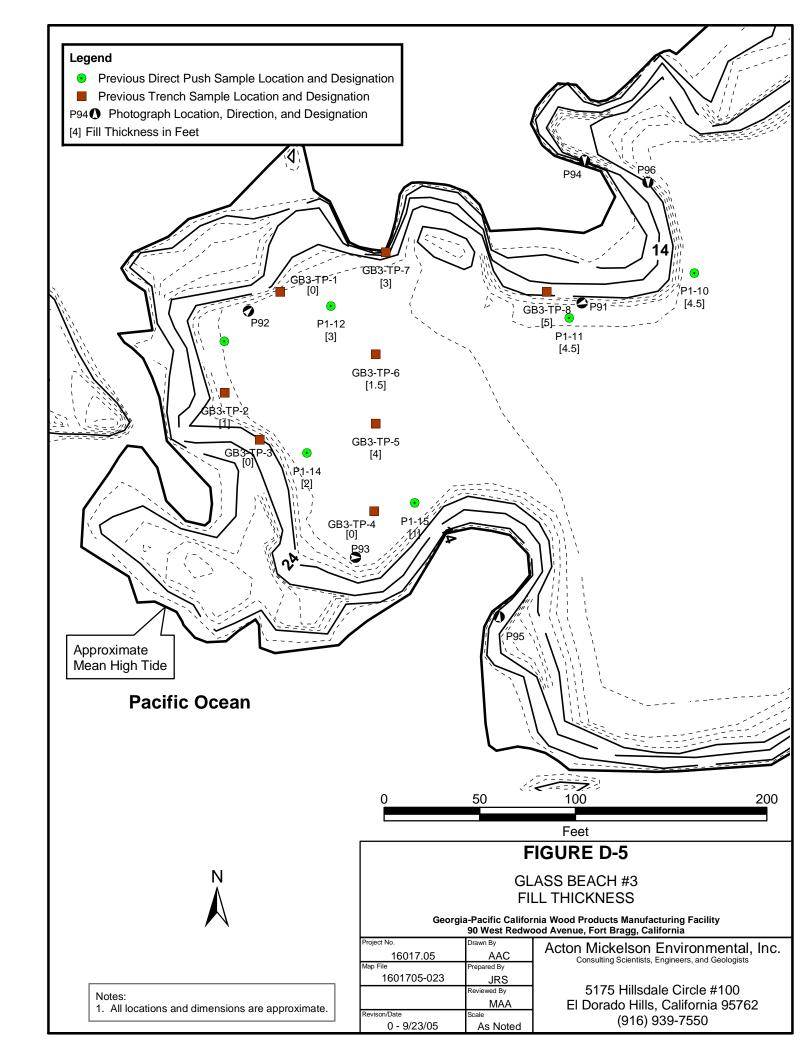


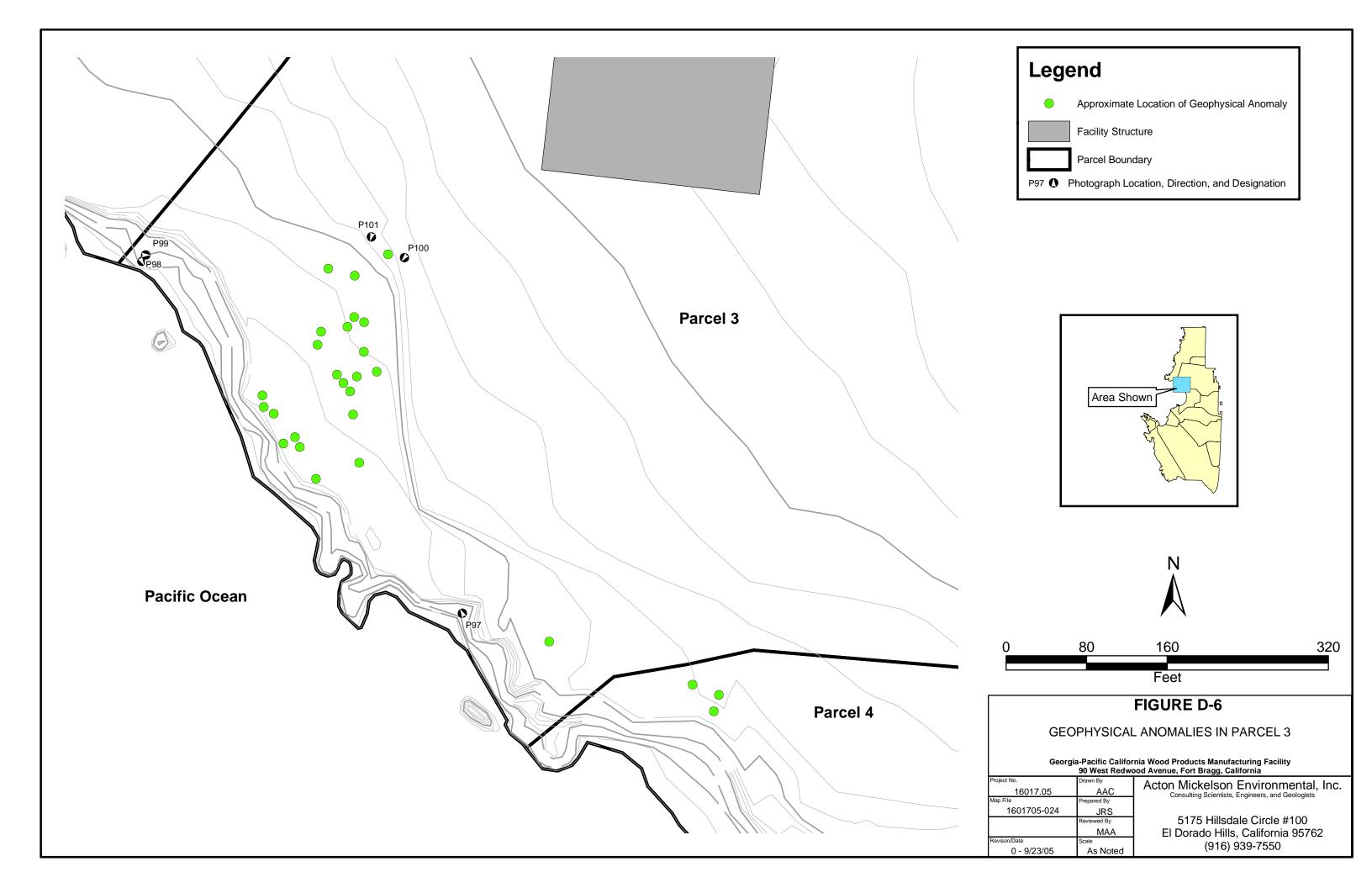


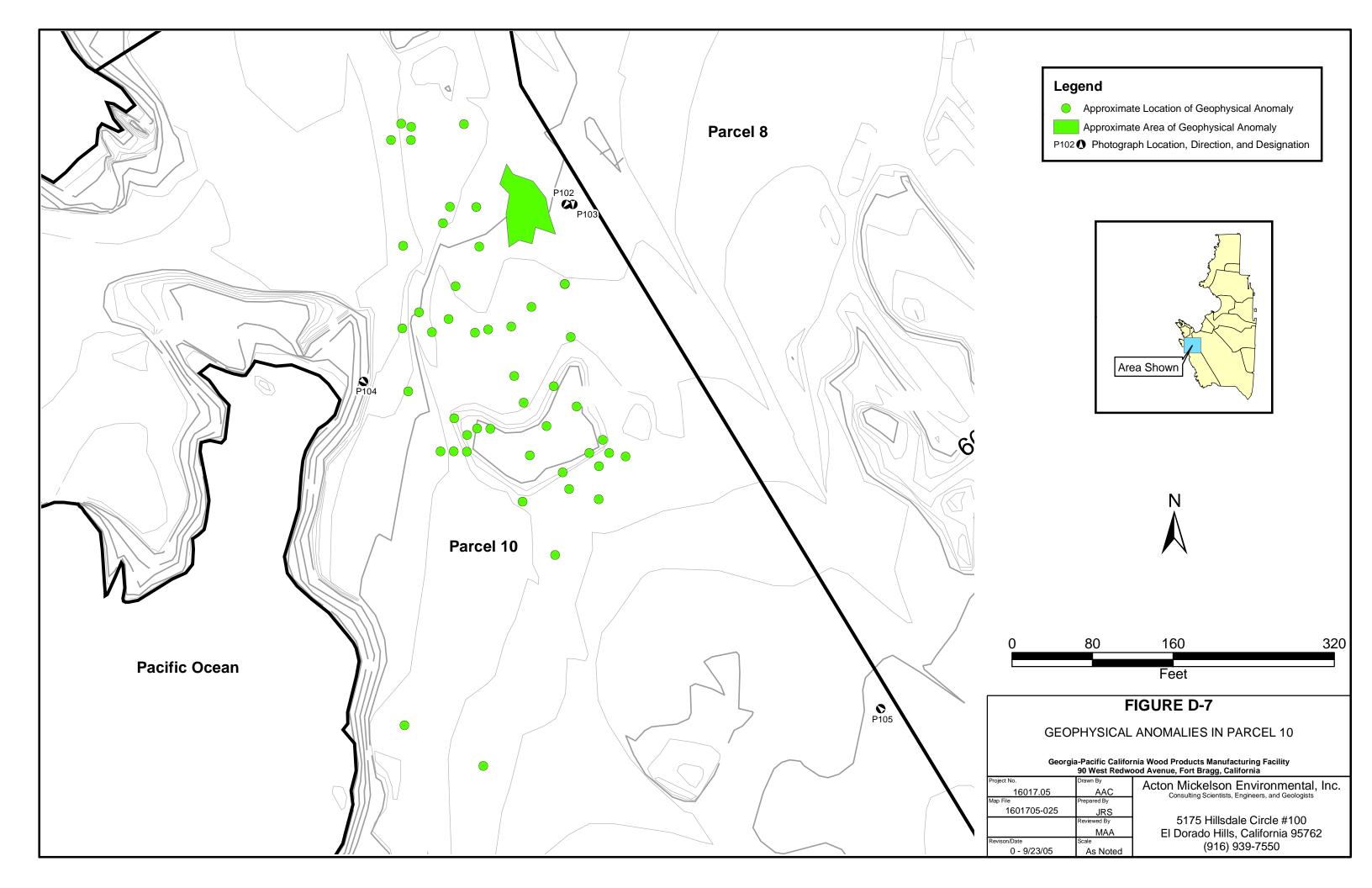


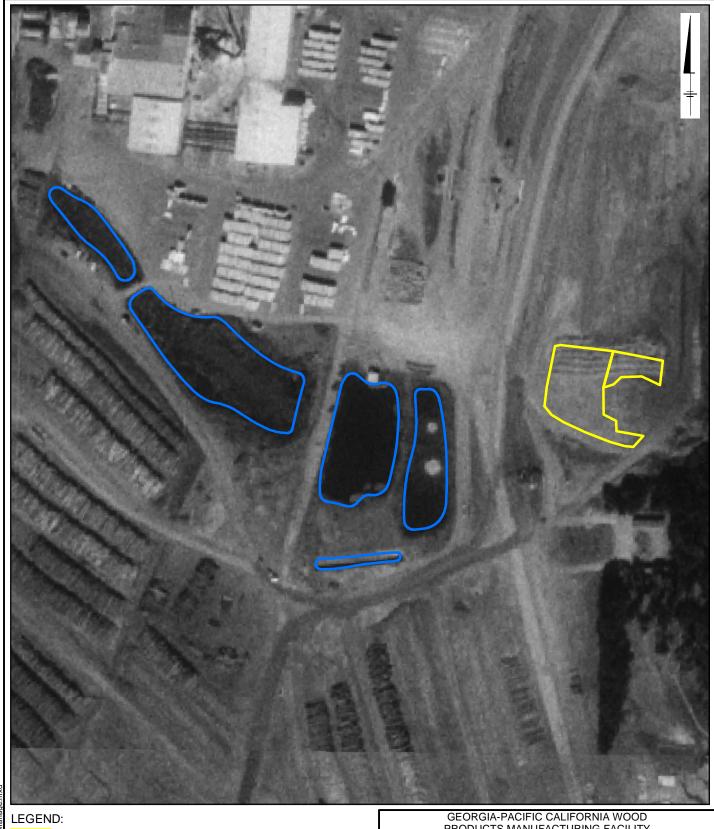












ASH PILE POND

GEORGIA-PACIFIC CALIFORNIA WOOD PRODUCTS MANUFACTURING FACILITY FORT BRAGG, CALIFORNIA

**EXCAVATION AND SOIL MANAGEMENT PLAN** 

## **ASH PILE LOCATION**





FIGURE D-7A

